

APPENDIX G TIRE LIFE AND TIRE WEAR FACTORS

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SECTION I. TIRE WEAR FACTORS

The tire wear factors used in this pamphlet are listed in appendix D. The “useful life” of a new tire is the product of Condition Factors (CF) from I through V, the Wheel Position Factor (WPF), the Grade Factor (GF) (for Drive Tires only) and the Miscellaneous Condition (MC). These factors provide a percentage reduction to the maximum tire life. See chapter 2 for tire cost methodology.

Condition Factors, Wheel Position Factors, Grade Factor, and Miscellaneous Condition are derived from the Caterpillar Performance Handbook.

The factors shown below are examples specifically for a rear dump wagon.

<u>Condition Factors (CF):</u>		<u>Average</u>	<u>Severe</u>
I.	Maintenance	0.981	0.763
II.	Speed	0.872	0.763
III.	Curves	0.981	0.872
IV.	Surface Condition	0.981	0.763
V.	Loads	1.090	0.709
CF	<i>Product of the factors (I x II x III x IV x V)</i>	0.897	0.275
VI.	<u>Wheel Position Factors (WPF):</u>		
	WPF-FT Front Tire (FT)	0.981	0.981
	WPF-DTR Drive Tire (DT) - Rear Dump	0.818	0.709
	WPF-TT Trailing Tire (TT)	1.090	1.090
VII.	Grade Factor (GF) (Drive Tires Only)	0.981	0.763
VIII.	Miscellaneous Condition (MC)	1.090	0.981

APPENDIX G TIRE LIFE AND TIRE WEAR FACTORS (Continued)

SECTION I. TIRE WEAR FACTORS (Continued)

Example: Final Tire Wear Factors for Wagon, Rear Dump
(See Appendix D, Category W15)

	<u>Average</u>	<u>Severe</u>
Front Tire - Average = (CF = 0.897)(WPF-FT = 0.981)(MC = 1.090)	0.96	
Front Tire - Severe = (CF = 0.275)(WPF-FT = 0.981)(MC = 0.927)		0.60
Drive Tire - Average = (CF = 0.897)(WPF-DTR = 0.763)(GF = 0.981)(MC = 1.090)	0.78	
Drive Tire - Severe = (CF = 0.275)(WPF-DTR = 0.732)(GF = 0.763)(MC = 0.927)		0.15
Trailing Tire - Average = (CF = 0.897)(WPF-TT = 1.090)(MC = 1.090)	1.07	
Trailing Tire - Severe = (CF = 0.275)(WPF-TT = 1.090)(MC = 0.927)		0.29

SECTION II. MAXIMUM TIRE LIFE

Maximum tire life is used in the formula to determine tire wear cost and is located in Appendix F by type of tire.